

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
18 October 2001 (18.10.2001)

PCT

(10) International Publication Number  
WO 01/76709 A1

(51) International Patent Classification<sup>7</sup>: A63F 13/00

(21) International Application Number: PCT/SG01/00059

(22) International Filing Date: 6 April 2001 (06.04.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
(P)/545,248 7 April 2000 (07.04.2000) US  
(P)/596,602 19 June 2000 (19.06.2000) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

#### Published:

- with international search report

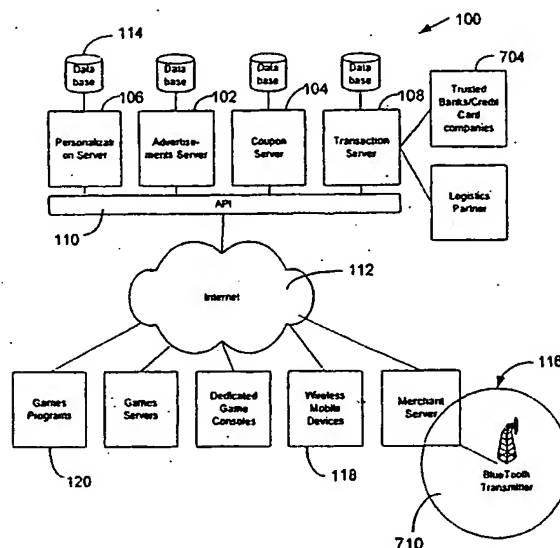
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: METHOD AND NETWORK FOR DELIVERING DIGITAL INTERACTIVE GAME COUPONS AND FOR INTEGRATING INTERACTIVE ADVERTISEMENTS INTO GAMES OVER A WIRELESS NETWORK



(57) Abstract: An interactive advertisement and reward system and methods on which advertisers can deliver digital interactive game coupons and integrate advertisements and rewards into games; game providers can design games to receive the advertisements and rewards; gamers/players will be rewarded in the form of a digital interactive game coupon which can be played and redeemed for product discounts, gifts, and points. The system and methods go beyond mere eyeballs by allowing for more effective advertisement and direct marketing with regards to branding and promoting knowledge of the product.

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**METHOD AND NETWORK FOR DELIVERING DIGITAL INTERACTIVE  
GAME COUPONS AND FOR INTEGRATING INTERACTIVE  
ADVERTISEMENTS INTO GAMES OVER A WIRELESS NETWORK**

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**FIELD OF THE INVENTION**

The invention relates to interactive game advertisements, redeemable product discount coupons over a wireless network. More particularly, the invention relates to a method and network for delivery of digital interactive game coupons into  
10 wireless Internet applications and portals, and integration of interactive advertisements and coupons with wireless Internet games. In addition, the invention provides profiling, measuring and targeting of wireless users utilizing digital interactive game coupons.

Also, the invention relates to interactive game advertisements, redeemable product discount coupons over a wireless network, gaming and rewards.  
15 More particularly, the invention relates to a method and network for integration and delivery of interactive advertisements to games and applications, measuring and targeting of advertisements using interactive coupons.

**DESCRIPTION OF THE RELATED ART**

Present advertisers use Internet advertisement networks to deliver their  
20 advertisements to websites. This method delivers banners advertisements with the hope

that the users will click on the banner and be redirected to another site to learn more about the product. Research has shown that many users do not like the idea of being redirected to another website because it causes the user a lot of confusion and inconsistencies. Furthermore, studies have shown that these banner advertisements

5 have very little or no interactivity and they usually have a very low click rate.

According to studies, people spend a large amount of their time on the Internet on entertainment and games. These entertainment programs or games usually contain advertisements that hardly create much of an impression. Furthermore, a lot of games do not offer rewards to players who spend a large amount of time on those

10 games. Moreover, there is no standard technology to ensure that rewards issued are authentic and can be verified by a trusted party whereby exchanges, transfers and redemption of such rewards can be done in a seamless and easy way.

For years, traditional paper discount coupons have been used by manufacturers and retailers alike to attract consumers to buy their products or services.

15 These coupons are usually hidden inside publications or pamphlets whereby consumers are required to cut them out and carry the coupons with them for redemption. While this method met its objective of generating sales, it is cumbersome and introduces several problems for both the consumers and the advertisers alike. The major problem is the need to process paper.

20 Present marketers recently distribute electronic coupons over the Internet to potential customers. This method solves the problems associated with buying publications but consumers still face issues regarding portability and the problems of

printing, storing and redeeming the coupons. All of these coupons currently employ a "mass marketing" approach with little or no interaction, personalization or customization tailored to each individual consumer.

Reward and loyalty systems based on accumulating point with purchases are also very popular with merchants. Consumers are generally issued a plastic smart card or paper where stickers are pasted or ink stamps of icons are stamped on them for certain amount of spending on their merchandise. This poses the same problems as described in the traditional coupon system. Namely, consumers that happen to be participating in many rewards programs, need to carry a lot of coupons and cards.

Thus, there is a need in the art to provide a system whereby carrying, storing and redeeming coupons are seamless, fun and entertaining. Furthermore, there is a need for a system by which the manufacturers or retailers can maximize their advertising efforts and at the same time provide entertainment for consumers anywhere and anytime. The present invention brings the advertisers' effort to a higher level by creating a network for distributing and integrating interactive advertisements and rewards into games whereby redemption can be done seamlessly. In other terms, the present invention brings the advertisers' effort to a higher effective level by creating a wireless network for distributing interactive game coupons into wireless Internet applications and portals and, integration of interactive advertisements and coupons into wireless games whereby redemption of coupons can be done seamlessly.

## SUMMARY

To overcome the limitations of the related art described above, and to overcome other limitations that will become apparent upon reading and understanding the present specification, the present invention provides a method and network for  
5 interactive advertisements, redeemable product discount game coupons over a wireless network, gaming and rewards.

Advertisements, gaming and the retail industries are three of the major industries in the world. There is an untapped and common relationship between the three industries. The present invention provides a network of advertisements, and  
10 rewards in the form of a digital interactive game coupon. The network will allow any registered games or wireless applications writer to access the advertisements and the game coupons to be delivered and integrated into their games or wireless applications. The network also provides methods whereby such game coupons can be easily redeemed, verified, signed, exchanged or transferred via the network.

15 To effect such a capability, an advertisement server, a coupon server, a personalization server and a transaction server are provided as nodes on the network and a set of Application Programming Interfaces (API hereinafter) are provided to access the various resources and methods provided by the network. Game writers or game developer or generally referred to a content module or a wireless internet site, use the  
20 API provided to access the interactive advertisements and coupons and integrate them into their wireless games. The games can be hosted on the game server provided or could be hosted on a separate affiliated network node connected to the Internet.

Users' information is gathered when users are playing the game. At the end of the games, they could earn or win rewards or product discounts in the form of a digital interactive coupon that can be redeemed or stored for a later use. Coupons are stored in a user database where they can be retrieved and redeemed wirelessly using a mobile device, such as a mobile phone or PDA (Personal Digital Assistant). In the event of redemption, the coupon contacts the coupon server and the transaction server to record the redemption, and then the coupon will be removed from the user database. If there is a balance payment, the transaction server will contact the affiliated banks or credit companies to effect the transaction. Coupons usage are stored and then logged against the user's profile. The information is compiled and can be used for targeted advertisements and highly effective direct marketing.

One aspect of the invention provides an interactive advertising and rewards system.

The aspect of the invention provides a network that includes a system for integrating interactive advertisements and coupons into games and wireless applications, a system for generating, distributing and redeeming digital interactive game coupons over wireless networks; a system for performing and recording transactions for each individual loyalty scheme and for compiling digital game coupons usage for targeted advertising and wireless user profiling.

The system includes a user node coupled to a network; a digital interactive game coupon for exchanging information between advertisers and multiple users; a mobile wireless device for storing and communicating information including the digital

interactive game coupon information, the mobile wireless device being  
communicatively coupled to the network; a game or wireless application provider  
affiliate node having advertising space thereon and being operatively coupled to the  
network; a personalization server operatively coupled to the network, wherein the game  
5 or wireless application provider affiliates provide authentication for users of the system;  
an advertising server operatively coupled to the network, wherein an advertiser's content  
is stored and wherein the game or wireless application provider affiliates utilize  
resources for integrating interactive advertisements into their game or wireless  
application through an API; a coupon server operatively coupled to the network for  
10 generating, storing, delivering and redeeming the digital interactive game coupons; a  
transaction server operatively coupled to the network for providing e-commerce  
transactions and payment services; a device for establishing a short-range wireless  
network at a merchant site where game coupons are played and interactive coupons are  
delivered and redeemed via the network; and a third party trusted bank/credit card  
15 company in communication with the network.

Yet another aspect of the invention provides, in a system including at  
least two user nodes coupled to a network, at least one digital interactive game coupon  
and a personalization server, a method for exchanging and transferring the coupons.  
The method includes transferring the coupon back to a coupon server from one user  
20 node; checking the validity of the coupon at a coupon server; and if the coupon is valid:  
re-signing the coupon using new user information and transferring the coupon to the

new user; and if the coupon is not valid: discarding the coupon to ensure that digital interactive game coupons cannot be replicated.

Still another aspect of the invention provides a method for generating the coupons. The method includes before the coupons are sent to a user's node, checking  
5 the coupons at a coupon server to see if the number of the coupons generated have exceeded the stipulated amount; making a copy of the coupon from a template; attaching a generated serial number to the said coupon; and signing the coupon.

A further aspect of the invention provides in a system including at least one user node including wireless devices and at least one redemption server, a method  
10 for redeeming digital interactive game coupons wirelessly. The method includes selecting a said coupon at user node; retrieving a coupon stored in a personalization server; and deleting said coupons that match the purchased items and other coupons that have expired.

Still a further aspect of the invention provides a method of distributing  
15 the coupons over a short-range wireless zone between two or more users. The method includes connecting and communicating the coupons that are of interest to the two or more users. The method also includes validating and redeeming the stipulated discounts and rewards provided by the digital interactive game coupons.

Still a further aspect of the invention provides a method of distributing  
20 interactive coupons over BlueTooth zones between two or more users. The method includes connecting and communicating coupons that are of interest to the two or more users; and pushing the interactive coupons to the one or more users that are of interest to



the two or more users; and validating and redeeming the stipulated discounts and rewards only when the two or more users turn up.

Yet a further method of the invention provides a method of transacting a sale of items sold at a retail outlet or at a restaurant. The method includes connecting to  
5 a short wave radio frequency zone of the retail outlet or the restaurant; displaying one or more items; selecting one or more of the items desired by one or more users; and paying for the one or more items using an interactive coupon payment method.

These and various other features of novelty as well as advantages which characterize the invention are pointed out with particularity in the claims annexed hereto  
10 and form a part hereof. However, for a better understanding of the invention reference should be made to the drawings which form a further part hereof, and to accompanying descriptive matter, in which there are illustrated and described specific examples of an apparatus in accordance with the invention.

#### BRIEF DESCRIPTION OF THE DRAWINGS

15 Referring now to the drawings in which like reference numbers represent corresponding parts throughout the several views where:

Figure 1 is a block diagram illustrating one embodiment of an architectural view of the network embodying the present invention;

Figure 2 illustrates one embodiment of using the provided API for user  
20 authenticating and delivering advertisements and rewards (coupons) into games;

Figure 3 is a flow diagram illustrating a logic flow of one embodiment of an interaction between affiliate applications and the network using the API;

Figure 4 is a diagram illustrating one embodiment of a format of an interactive coupon;

Figure 5 is a flow diagram of one embodiment of a process for receiving and storing interactive coupons into a wireless mobile device;

5                Figure 6 is a flow diagram of one embodiment of an operational sequence in a coupon exchange or transfer process;

Figure 7 is a flow diagram of one embodiment of an interactive coupon redemption and payment process via the wireless device; and

10              Figure 8 is an architectural diagram showing one embodiment of a reporting process, a reviewing process and a profiling process.

#### DETAILED DESCRIPTION

In the following description of the several specific embodiments, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration the specific embodiments in which the invention may be  
15              practiced. It is to be understood that other embodiments may be utilized as structural changes may be made without departing from the scope of the present invention.

Reference is now directed to Fig. 1, which shows generally an architectural diagram of the Interactive Digital Game Coupon and Advertisement and Rewards network 100 incorporating the communications process according to the  
20              present invention. The architecture of the system comprises at least one affiliate game 120, one advertisements server 102 with at least one advertisement, a coupon server 104, or generally referred to as a coupon module, for generating the digital coupons with

regards to the advertisement, a personalization server 106, or generally referred to as a personalization module, where users' profiles and the coupons are stored. Furthermore, a wireless user node or generally referred to as a wireless communication device, such as a mobile phone or PDA, operating alternatively as a placeholder where the coupons  
5 can be retrieved and stored, can also be included. The network 100 also includes a transaction server 108 for performing the coupon redemption and for processing e-commerce payments. An API 110 to the network 100 is also provided for allowing games developers to access and integrate advertisements and coupons into their games or wireless applications.

10 In one embodiment of the present invention, the Advertisement Server 102, or generally referred to as an advertisement module can be a digital computer connected to the Internet 112 as an "Internet Host" as described in the Internet Protocol RFC 791. The server 102 contains the advertisements stored as objects. These advertisement objects contain information about the advertisements and the products or  
15 services involved. Information stored inside of these objects can be textual information or 3D vector graphics and other rich media. These objects contain a set of methods with which to allow affiliate games or applications providers to access the contained advertisements' information and deliver it into their games or applications. This set of methods can be accessed via the standard APIs 110 provided for delivering and  
20 integrating the advertisements and the coupons into games and wireless applications. The advertisements can appear anywhere in the games such as the backdrop or even as objects inside the game depending on the creativity of the games writers. Such games

are affiliated games whereby a fee contract is provided to the games writer for integrating the advertisements or the coupons into their games.

In one embodiment, advertisers can create these advertisements objects to be put on the advertisement server 102 by way of an interface program to generate the  
5 objects. The network 100 further comprises a vendor portal where it allows the vendor to get quick results regarding the amount of coupons being utilized and detailed information of their customer. Vendors can change or design their marketing strategy by specifying the redemption specification on the coupons. It presents a unique way of effective profiling, marketing for vendors and merchants providing one-to-one  
10 personalized target marketing.

The personalization server 106 includes users' profiles stored as objects. It also includes objects for connecting and authenticating the user. In the case of a new user, a registration object is provided to register and add users into the personalization server's database 114. These objects and methods will allow games writers to  
15 seamlessly integrate their games with the system and thus providing players with access to the whole range of digital interactive games coupons. As previously discussed, these methods and objects are available via the standard API 110 provided. The personalization server 106 also allows users to transfer the coupons and exchange the coupons via a coupon transfer and exchange interface. Generally, there will be another  
20 server provided in front of the interface acting as a broker. The process of the transfer and exchange of coupon will be explained further below.

The coupon server 104 is responsible for generating the interactive coupons, delivering of the interactive coupons to the user node where the affiliate games are running and verifying the interactive coupons, recording the interactive coupons transactions and providing a users' activities log. Coupon information is delivered to the games 120 via the link established using the API 110 provided. When the request for the coupons to be stored is received, the coupons are signed and then transferred to the personalization server 106 for storage. The coupon server 104 will also distribute coupons to a wireless transmitter 116. All the coupons distributed will communicate with the coupon server 104 directly via the user node.

10 It will be appreciated to a person skilled in the art that the functions served by the various servers may be included into a single server or module without departing from the scope of the present invention.

Referring now to Fig. 2, which shows a general block diagram 200 of how developers can easily access the objects in the network 100 and deliver them to their applications 206. Developers include a standard object 204 provided into their applications 206 to access the network 100. Once the object 204 is instantiated in their applications 206, the developers can start authenticating users to the network 100 and retrieve the advertisements and the coupons into their applications 206 (or games). Developers should not be concerned about the type of advertisement or rewards coupons being delivered. The network 100 will deliver the appropriate advertisements based on the profiles of the users. This technique will be further discussed below.

Fig. 3 shows a flow diagram 300 illustrating one embodiment of a logic flow of an interaction between affiliate applications and the network 100 using the API 110. The API object is instantiated at block 301 and the affiliate program starts at block 302 by authenticating the user to the network 100. The method tests whether the user is new at block 305. If the user is a new user, the standard API 110 will retrieve the registration module for the user to register at block 304. If the user is not a new user, then after the user is verified, at block 306 the object will start retrieving and delivering the advertisements and the coupons to the application where the developer has intended. Of course, the method proceeds at block 306 after a new user has successfully completed the registration. The user then selects the coupons and rewards they wanted during the intermission or break during the course of the game or applications. In addition, anonymous users can interact with the coupons and advertisements in affiliate applications. Registration is required for storing and redeeming of the coupons.

Referring now to Fig. 4, an interactive coupon is shown generally at 400. The coupon 400 is preferably a combination of several components. For example, the coupon 400 can be broken into a deck of cards 402 where each individual card 402 can include the following information:

1. A title 402 and short description of the coupon 400;
2. A graphic 404, either static or animated representing the coupon 400;
3. A value 406 conveying discount information and rewards;

4. An expiration date and time 408 where the expiration date or validity of the coupon 400 is specified when the coupon 400 is valid and when it is not (if it is expired, the coupon 400 destroys itself and is returned to the server for administrative purposes);
- 5 5. A redemption specification 410 specifying the policy of the redemption where the specification 410 controls the process of redeeming the coupon 400 and how much the consumer can redeem using the coupon 400;
6. Owners details 412, such as mobile phone number, name, email  
10 address, or personal particulars, which may or may not be attached together with the coupon 400 (it might just be a reference to the server where such information is stored);
7. The coupon 400 can also include an address, map, and directions  
15 414 as to how to get to a merchant's place of business or how to locate a product in a retail outlet (e.g., a large store);
8. A merchant or issuer 416 specifying the name, brand, or logo icon of the merchant or issuer including details, such as address or telephone numbers;
9. Information on redeemable product and services 418;
- 20 10. A unique serial number 420 for uniquely identifying each coupon 400;
11. A signature 422 to ensure that it cannot be duplicated;

12. Interactive program and games 424 are provided on the coupon 400 which contain a vendor's favourite game, such as "tic-tac-toe" or "Snake & Ladders lucky spin", the game or program 424 will contain certain graphics, icons, or text related to the vendor's branding or products in the course of playing the game;
13. Other related messages 420 can also be included in the coupon 400 (this provides a place whereby merchants can deliver customized personal messages to the coupon owner); and
14. A type of the coupon 428 (e.g., fixed or dynamic).

10 The interactive coupons 400 are not printed, therefore, they cannot be printed over and over again, or photocopied as can be done with conventional coupons. A mobile wireless device 118 (Fig. 1) (e.g., a mobile phone) is used as a placeholder for the coupons 400 and thus solves the general problems relating to cutting, clipping and storing of conventional paper coupons. The coupons 400 can be stored on the mobile

15 wireless device 118 entirely or as links to the coupons 400 stored in the user's account on the network or the Interactive Coupon Server 104. There is no need to store the coupons 400 on a computer or print the coupons 400. The coupons 400 are delivered directly to the wireless mobile device 118 or through syncing with the user's account either using a wired solution or a wireless solution. The number of the coupons 400 a

20 wireless mobile device 118 can hold is not limited since all the coupons 400 are stored at the personalization server database 114 and only a subset is transferred to the wireless mobile device 118 whenever is required. Thus, the need to process paper is eliminated



and, at the same time, the likelihood of the user redeeming the coupons 400 is increased because the coupons 400 are easy to carry around in the wireless mobile device 118 and, as described above, redemption of the coupons 400 is seamless.

The values 406 of the coupons 400 are either advertised at the coupon image 404 as discussed above or can be hidden. If the value 406 is hidden, the users need to perform the required steps, such as playing a game of chance or skill in order to secure the stipulated discount or to reveal the discount. The value 406 of the discount information and rewards can be fixed once the owner completes the gaming process. However, in certain cases, the value 406 can be made dynamic depending on the type 428 and redemption specifications 410. In other words, the coupon 400 does not contain a fixed value 406 like conventional coupons. Instead, each coupon 400 will have a logic portion attached to it and the values 406 can be changed dynamically according to the time or the consumer's profile (e.g., the consumer's habits). This allows the merchants to provide true one-to-one marketing.

Fig. 5 is an illustration of one embodiment of a flow diagram 500 according to the present invention. The flow diagram 500 shows a physical layout for receiving and storing the coupons 400. Once the affiliate game or application 206 is connected to the network 100, the advertisements and coupons 400 based on the user's profile are delivered to the game or application 206, as shown at block 502. At block 504, the coupons 400 are displayed on the console for users to click on. When the user clicks on the coupon 400, at block 506, a store message is sent to the coupon server 104 to start the coupon 400 generation process, as shown at block 508. Before the coupon

400 is generated, the coupon server 104 checks if the coupon 400 has exceeded the maximum stipulated number. If the maximum number has been exceeded, a message is returned to the user conveying that the coupon 400 has reached its maximum issue number. If the maximum number has not been exceeded, however, the coupon server

5 104 continues the process at block 510 by generating the coupon 400 and then signing it. After the coupon 400 is signed, it is transferred to the personalization server 106 where it is stored in the respective user's account, as shown at block 512. At block 514 a message is then sent to the user mobile wireless device 118 (e.g., a mobile phone) to notify the user that the coupon 400 has been saved. Once the coupon 400 is saved,

10 advertisers are able to offer further discounts or other related product information or news into the coupon's other messages field 420.

Users can also login to the system 100 to browse the stored coupons 400 via the mobile wireless device 118 using, for example, a data enabled mobile phone. The mobile phone will send a request to browse the coupons 400. A list of the coupons'

15 titles stored in the user accounts will be delivered to the user mobile wireless device 118. The user can then select which coupon 400 he or she wants to see or retrieve. Once the user selects the coupon 400 he or she wants to see, a message is sent to the particular coupon's 400 object for the relevant information. Information is then sent via the established link.

20 Referring now to Fig. 6, one embodiment of a coupon 400 transferring and exchanging process is shown generally at 600. The coupon server 104 contains an interface for exchanging and transferring of coupons 400. Generally, as shown at block

602, there will be a server provided in front of the interface as a coupon broker. Users can send a request to the coupon broker server by selecting the coupon 400 they want to exchange with at block 604 and specifying the coupon 400 that they want to exchange for at block 606. Such a request reaches the server, and the server will try to find a  
5 match, as shown at block 608. If a match exists, as tested at block 610, the server straight away communicates the request to the personalization server 106 via the coupon transfer and exchange interface at block 612. Users can also browse through all unrealized coupon exchange requests via the phone browser or an Internet browser by submitting the coupon requested to the exchange request. Once the server receives the  
10 coupon 400, it will then perform the exchange by communicating with the personalization server 106 via the transfer and exchange interface at block 614. Users can also perform exchanges and transfers among themselves by transferring coupons to one another via the interface.

For example, at block 616, a coupon to transfer is selected, and a user to  
15 transfer the coupon to is selected at block 618. At block 620, a request is sent to the personalization server 106 to affect the transfer. If successful, at block 622, both users are notified at block 624. If not successful, at block 622, the process continues at block 616 to select the coupon to transfer to.

Referring now to Fig. 7, one embodiment the present invention provides  
20 a novel one-key process for the redemption of the coupons 400. Users only need to activate a stipulated key on the mobile device to effectuate the redemption transaction. User information details and transaction details are sent to the transaction server 108

automatically without the need for user intervention. For example, a user 702 (e.g., a consumer) can redeem a discount or rewards by pressing a key on the mobile phone regardless of whether the user 702 is physically in a store or not. If the user 702 is not in the store, the discountable item will still go through the redemption process (as described below) except that the item involved will be delivered to the user's 702 residence or be picked up at a later arranged date and location.

In one embodiment of a redemption scenario, when the user 702 clicks on the redemption option on the coupon 400, the coupon 400 communicates with the transaction server 108 where the user's 702 credit card information is stored. The transaction server 108 first communicates the transactions to the coupon server 106 where the coupon 400 will be verified. After the verification step, it will inform the personalization server 106 to remove the coupon 400 from the user's 702 account.

In one embodiment of another redemption scenario, when the user 702 clicks on the redemption option on the coupon 400, the redemption information is sent from the user's mobile device to the merchant's Point of Sale (POS) device via infrared connection, thereafter the merchant's POS will verify the redemption with the network and process the transaction.

The transaction server 108 then communicates with the credit card companies 704 via a secure link 706 to execute the transaction. The credit card companies 704 will then perform the necessary operations and send a reply to the merchant concerned. At the merchant's end, the credit card company's 704 receipt printer will print the necessary receipt for the user 702 to sign if the user 702 chooses to

have a physical receipt. This method maintains a very high level of security as credit card information are not sent from the user's 702 wireless mobile device 118 to the transaction server 108. In one embodiment, the present invention provides a rewards system whereby users 702 can earn points while performing transactions over the network 100. It also provides a facility to allow vendors/merchant to setup an individual reward program for generating more business and for retaining existing customers. Each user 702 is given an individual account for each affiliate loyalty program setup by the merchant on the network 100. Points can be accumulated for each transaction performed on the goods and products provided by the merchant. In one embodiment, the present invention provides a method for redeeming coupons including at least one redemption station with wireless transmitter 708, such as Bluetooth, a wireless transmitter enabled mobile device 118, the coupon 400 and the transaction server 108. BlueTooth is "[a] code name for a proposed open specification to standardize data synchronization between disparate PC and handheld PC devices" Harry Newton, Newton's Telecom Dictionary, 15th ed., (Matt Kesley, 1999), 107. The user 702 entering the wireless zone 710 can connect to the localized wireless network 100 and start receiving the coupons 400 as he or she moves around within different zones.

Referring back to Fig. 1, the wireless zone 710 can be established by using one or more wireless transmitting devices on the merchant's server 708. Each wireless transmitting device e.g. Bluetooth device will form a zone of reach and with multiple Bluetooth devices, an aggregated wireless zone 710 will be formed with a much larger reach. Each device is either connected to the Internet 112 via a wired link,

or it can be connected through a wireless connection. Once inside the wireless zones 710, consumers can connect to the network 100 and start receiving coupons 400 and use the services provided by the zone owners as well as services offered by the network 100. Consumers 702 inside the wireless zone 710 can interact with each other through the interactive coupons 400. They can play, for example, a multi-player game whereby they will all get discounts and rewards if they co-operate to archive the common goal set by the game. The user 702 in one zone can contact another user in another zone provided that both have established an agreement to notify each other in the event that they are nearby. In the event that one user 702 contacts the other user through the wireless zone 710, the interactive coupons 400 can be offered to both users 702 if they meet up at a particular nearby store, such as a café or a restaurant.

Figure 8 shows an architectural diagram 800 showing a reporting process 802, a reviewing process 804 and profiling process 806 activated by the personalization server 106, advertisements server 102, coupon server 104 and transaction server 108. The four servers communicate closely in the processes, as each process requires data from all the servers. The reporting process 802 is used for generating on-line reports on the effectiveness of the advertisements and the statistics figures on the coupon usage, storage and redemption rate. The reviewing process 804 allows advertisers to renew the coupons 400 that are stored in the users' account but are not redeemed with new promotions or to insert new messages into the stored coupons. The profiling process 806 compiles the statistics gathered by the reporting process and updates the user profile with new information.

The above specification, examples, and data provide a complete description of the invention. Since many embodiments of the invention can be made without departing from the spirit and scope of the invention, the invention resides in the claims hereinafter appended.

## THE CLAIMED INVENTION IS:

- 1 1. A wireless interactive advertising network, comprising:
  - 2 a wireless user node coupled to the network;
  - 3 a digital interactive game coupon;
  - 4 a mobile wireless device for accessing, storing, and communicating information
  - 5 including the digital interactive game coupon information, the mobile wireless device
  - 6 being communicatively coupled to the network;
  - 7 a game developer affiliate node having advertising space thereon and being
  - 8 operatively coupled to the network;
  - 9 at least one server comprising a personalization server operatively coupled to the
  - 10 network, wherein the game provider affiliate node provides authentication for users of
  - 11 the network;
  - 12 an advertising server operatively coupled to the network, wherein an advertiser's
  - 13 content is stored and wherein the game provider affiliate node utilizes resources for
  - 14 integrating advertisements into a game through an API;
  - 15 a coupon server operatively coupled to the network for generating, storing,
  - 16 delivering and redeeming interactive game coupons;
  - 17 a transaction server operatively coupled to the network for providing e-
  - 18 commerce transactions and payment services;
  - 19 at least one wireless user node for establishing a zone around a merchant site
  - 20 where the interactive game coupons are played, delivered and redeemed via the
  - 21 network; and



22 a third party trusted bank/credit card company in communication with the  
23 network.

1 2. A network as claimed in claim 1, wherein the network is Internet or digital  
2 interactive game coupon wireless zones.

1 3. A network as claimed in claim 1, wherein the user node includes a user interface  
2 selected from the group consisting of a wireless browser program, a wireless dedicated  
3 game console, an interactive digital TV, and a portable wireless communication device  
4 such as Personal Digital Assistants (PDAs).

1 4. A network as claimed in claim 1, wherein the mobile wireless device is used as a  
2 placeholder for the interactive game coupons.

1 5. A network as claimed in claim 1, wherein the personalization server acts as a  
2 secondary storage for the interactive game coupons.

1 6. A network as claimed in claim 1, wherein the advertising server further comprises  
2 advertisement content in a form of advertisement objects.

1 7. A network as claimed in claim 1, wherein the interactive game coupons are received  
2 and stored via the mobile wireless device.

- 1 8. A network as claimed in claim 6, wherein the advertisement objects further  
2 comprise methods for accessing and integrating the advertisement content into the game  
3 provider affiliates.
- 1 9. A network as claimed in claim 1, wherein the personalization server further  
2 comprises a profile in a form of user objects.
- 1 10. A network as claimed in claim 9, further comprising objects with methods for  
2 connecting and authenticating users to the network.
- 1 11. A network as claimed in claim 9, further comprising a registration object.
- 1 12. A network as claimed in claim 11, wherein the registration object further comprises  
2 methods for registering and adding new users.
- 1 13. A network as claimed in claim 1, wherein the coupon server further comprises an  
2 interactive coupon as coupon objects.
- 1 14. A network as claimed in claim 13, wherein the interactive coupon further comprises  
2 a title, graphic image, value, expiration date, and time, redemption specifications, owner  
3 details, address, map/directions, merchant/issuer, information on redeemable products  
4 and services, unique serial number, signature, interactive programs and games, other  
5 related messages and type of the interactive game coupons.

1 15. A network as claimed in claim 14, wherein the coupon objects further comprise  
2 logic and rules for processing user requests from interaction.

1 16. A network as claimed in claim 13, wherein the interactive game coupons are signed  
2 and personalized, and each of issued interactive game coupons can only be used by an  
3 owner.

1 17. A network as claimed in claim 13, wherein the interactive game coupons are signed  
2 using public encryption techniques.

1 18. A network as claimed in claim 13, wherein each of the interactive game coupons  
2 includes a label consisting of redeemable, live, and expired;  
3 wherein a value of a redeemable coupon is fixed and does not change after an  
4 owner completes a required transaction process and is also fixed based on  
5 performance/results of a game the owner played;

6 wherein a value of a live coupon is dynamic and the value of the live coupon  
7 changes according to a parameter selected from the group consisting of time, owner's  
8 profile, retailer stocks availability, game usage and other statistics; and

9 wherein an expired coupon loses all attached value when the expired coupon is  
10 not redeemed by a stipulated period.

1 19. A network as claimed in claim 13, wherein the coupon objects further comprise  
2 methods for accessing interactive coupon's content and information.

1 20. A network as claimed in claim 13, wherein the coupon objects further comprise  
2 methods for interacting with the user.

1 21. A network as claimed in claim 1, wherein merchants and users are allowed to setup  
2 an ad-hoc network of connected users within a stipulated wireless zone.

1 22. A network as claimed in claim 21, wherein creation of the ad-hoc network allows  
2 the users to play games and be rewarded with discount coupons prizes and other gifts.

1 23. A network as claimed in claim 21, wherein a user from the stipulated wireless zone  
2 can contact another user in another stipulated wireless zone, provided both users register  
3 themselves.

1 24. A network as claimed in claim 21, wherein the stipulated wireless zone is a wireless  
2 ad-hoc zone enabled by public communication system, e.g. BlueTooth enabled  
3 communication zone.

1 25. In a system including at least two user nodes coupled to a network, at least one  
2 digital interactive game coupon and a personalization server, a method for exchanging  
3 and transferring of the digital interactive game coupon, comprising:

4           transferring the digital interactive game coupon back to a coupon server from  
5 one of the user nodes;  
6           checking validity of the digital interactive game coupon at the coupon server;  
7 and  
8           if the digital interactive game coupon is valid:  
9                 re-signing the digital interactive game coupon using new user  
10 information and transferring the digital interactive game coupon to the new user; and  
11           if the digital interactive game coupon is not valid:  
12                 discarding the digital interactive game coupon to ensure that the coupon  
13 cannot be replicated.

1   26. A method for generating coupons, comprising:

2           checking the coupons at a coupon server before interactive coupons are sent to a  
3 user's node to see if a number of the interactive coupons generated have exceeded a  
4 stipulated amount indicated by a merchant:  
5           making a copy of the interactive coupons from a template;  
6           attaching a generated serial number to the interactive coupons; and  
7           signing the interactive coupons.

1   27. In a system including at least one user node including a wireless mobile device and  
2 at least one redemption server, a method for redeeming an interactive coupon wirelessly,  
3 comprising:  
4           selecting the interactive coupon at a user node;

5           retrieving the interactive coupon stored in a personalization server; and  
6           deleting the interactive coupon that matches purchased items and other coupons  
7   that have expired.

1   28. A method as claimed in claim 27, wherein the interactive coupon is a true electronic  
2   interactive coupon, and there is no need for processing paper, the method further  
3   comprising:

4           storing and retrieving the interactive coupon wirelessly anywhere using the  
5   wireless mobile device;  
6           redeeming the interactive coupon wirelessly; and  
7           playing an interactive game.

1   29. A method of distributing digital interactive game coupons over ad-hoc wireless  
2   zones, e.g. BlueTooth zones, between at least two users, comprising:

3           connecting and communicating the interactive coupons that are of interest to the  
4   at least two users; and

5           delivering the interactive coupons to the at least one user that is of interest to the  
6   at least two; and

7           validating and redeeming stipulated discounts and rewards when the at least one  
8   user turns up.

1   30. A system for providing an advertisement to a user connected to a communications  
2   network, comprising:

3           at least one server connected to the communications network, the at least one  
4   server comprising:  
5           a content module for providing content to the user; and  
6           an advertisement module for providing the advertisement to the content  
7           module;  
8           whereby the content module integrates the advertisement into the content before  
9   delivering the content to the user.

1   31. An interactive advertising and rewards system, comprising:  
2           a user node coupled to a network;  
3           an interactive coupon for exchanging information between an advertiser and a  
4   coupon owner;  
5           a mobile wireless device for storing and communicating information including  
6   the interactive coupon information, the mobile wireless device being communicatively  
7   coupled to the network;  
8           a game or application provider affiliate node having advertising space thereon  
9   and being operatively coupled to the network;  
10          a personalization server operatively coupled to the network, wherein the game or  
11   application provider affiliates provide authentication for users of the system;  
12          an advertising server operatively coupled to the network, wherein an advertiser's  
13   content is stored and wherein the game or application provider affiliates utilize  
14   resources for integrating advertisements into their game or application through an  
15   Application Programming Interface (API);

16 a coupon server operatively coupled to the network for generating, storing,  
17 delivering and redeeming the interactive coupons;  
18 a transaction server operatively coupled to the network for providing e-  
19 commerce transactions and payment services;  
20 a device for establishing a short-range wireless network at a merchant site where  
21 games are played and interactive coupons are delivered and redeemed via the network;  
22 and  
23 a third party trusted bank/credit card company in communication with the  
24 network.

1 32. A system as claimed in claim 31, wherein the network is the Internet.

1 33. A system as claimed in claim 31, wherein the user mode includes a user interface  
2 selected from the group consisting of a borrower program, a dedicated game console, an  
3 interactive digital TV and a portable wireless device.

1 34. A system as claimed in claim 31, wherein the mobile phones or PDA devices are  
2 used as a placeholder for interactive coupons.

1 35. A system as claimed in claim 31, wherein the coupon server acts as a secondary  
2 storage for the interactive coupons, thereby limiting the number of interactive coupons  
3 being stored by the business and marketing strategies.



1 36. The system as claimed in claim 31, wherein the system allows individual vendors to  
2 setup an independent rewards system so as to retain customers or advertise branding.

1 37. A system as claimed in claim 31, wherein the said advertising server further  
2 comprises advertisement content in the form of advertisement objects.

1 38. A system as claimed in claim 31, wherein the interactive coupon is received and  
2 stored via the mobile wireless device.

1 39. A system as claimed in claim 38, wherein the advertisement objects further  
2 comprise methods for accessing and integrating the advertisement content into the  
3 affiliate game or application.

1 40. A system as claimed in claim 31, wherein the personalization server further  
2 comprises a profile in the form of user objects.

1 41. A system as claimed in claim 40, wherein the system further comprises objects with  
2 methods for connecting and authenticating users to the system.

1 42. A system as claimed in claim 40, wherein the system further comprises a  
2 registration object.

1 43. A system as claimed in claim 42, wherein the registration object further comprises  
2 methods for registering and adding new users.

1 44. A system as claimed in claim 31, wherein the coupon server further comprises the  
2 interactive coupon as coupon objects.

1 45. A system as claimed in claim 44, wherein the interactive coupon further comprises  
2 a title, graphic image, value, expiration date and time, redemption specifications, owner  
3 details, address, map or directions, merchant or issuer, information on redeemable  
4 products and services, unique serial number, signature, interactive programs and games,  
5 other related messages and type of the interactive coupon.

1 46. A system as claimed in claim 45, wherein the coupon object further comprises logic  
2 and rules for processing the user requests from the interaction.

1 47. A system as claimed in claim 44, wherein interactive coupons are signed and  
2 personalized, and each interactive coupon issued can only be used by the owner.

1 48. A system as claimed in claim 44, wherein the interactive coupon is signed using  
2 public encryption techniques.

1 49. A system as claimed in claim 48, wherein the encryption technique is a Diffie-  
2 Hellman (DH) algorithms or a Rivest-Shamir-Adleman (RSA).

1 50. A system as claimed in claim 44, wherein the interactive coupon includes a label  
2 consisting of redeemable, live and expired;  
3 wherein a value of the redeemable coupon is fixed and does not change after the  
4 owner completes the required transaction process and are also fixed based on the  
5 performance or results of the game the owner played; and  
6 wherein a value of the live coupon is dynamic and the value of the live coupon  
7 changes according to a parameter selected from the group consisting of time, owner's  
8 profile and retailer stocks availability; and  
9 wherein an expired coupon loses all its attached value when it is not redeemed  
10 by a stipulated period.

1 51. A system as claimed in claim 44, wherein the interactive coupon object further  
2 comprises methods for accessing the interactive coupon's content and information.

1 52. A system as claimed in claim 44, wherein the coupon object further comprises  
2 methods for interacting with the interactive coupon's owner.

1 53. The system as claimed in claim 31, wherein the users are allowed to setup an ad-  
2 hoc network of connected users within a stipulated zone.

1 54. The system as claimed in claim 53, wherein the creation of the ad-hoc zones allow  
2 users to play games and be rewarded with discount coupons and points.

1 55. The system as claimed in claim 53 or 54, wherein a user from one zone can contact  
2 another user in another zone provided both users register themselves.

1 56. The system as claimed in claim 55, wherein the zone is a BlueTooth zone.

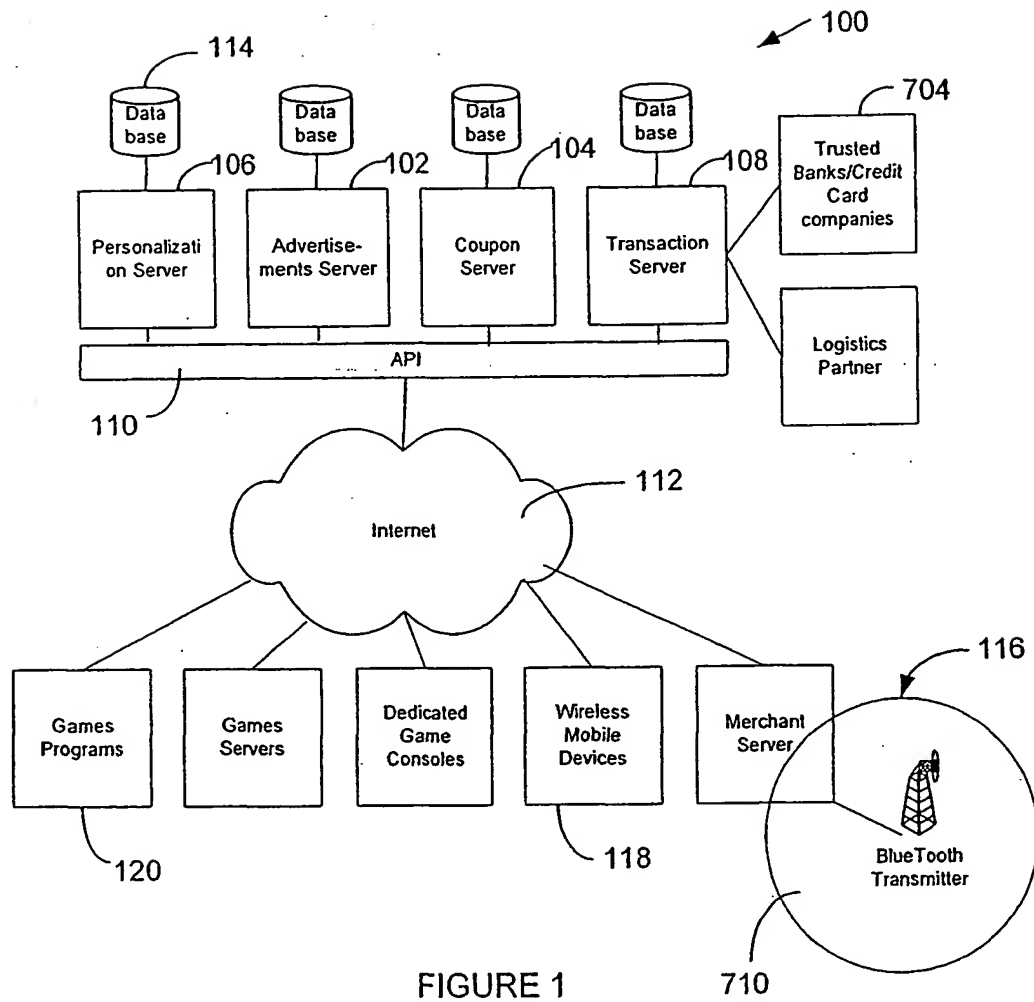
1 57. In a system including at least two user nodes coupled to a network, at least one  
2 interactive coupon and a personalization server, a method for exchanging and  
3 transferring coupons, comprising:  
4       transferring the interactive coupon back to a coupon server from one user node;  
5       checking the validity of the coupon at a coupon server; and  
6       if the coupon is valid:  
7       re-signing the coupon using new user information and transferring the coupon to  
8       the new user; and  
9       if the coupon is not valid:  
10       discarding the coupon to ensure that interactive coupons cannot be replicated.

- 1    58. A method for generating coupons, comprising:  
2            before interactive coupons are sent to a user's node, checking the coupons at a  
3    coupon server; and  
4            if the number of coupons generated have exceeded the stipulated amount:  
5            making a copy of the coupon from a template;  
6            attaching a generated serial number to the coupon; and  
7            signing the coupon.
- 1    59. In a system including at least one user node including wireless devices and at least  
2    one redemption server, a method for redeeming interactive coupons wirelessly,  
3    comprising:  
4            selecting a coupon at a user node;  
5            retrieving a coupon stored in a personalization server; and  
6            deleting coupons that match the purchased items and other coupons that have  
7    expired.
- 1    60. A redemption method as claimed in claim 59, wherein the interactive coupons are  
2    true electronic interactive coupons and there is no need for processing paper, the method  
3    further comprising:  
4            storing and retrieving interactive coupons wirelessly anywhere using a mobile  
5    device; and  
6            redeeming the interactive coupons wirelessly.

1 61. A method of distributing interactive coupons over BlueTooth zones between two or  
2 more users, comprising:  
3 connecting and communicating coupons that are of interest to the two or more  
4 users; and  
5 pushing the interactive coupons to the one or more users that are of interest to  
6 the two or more users; and  
7 validating and redeeming the stipulated discounts and rewards only when the  
8 two or more users turn up.

1 62. A method of transacting a sale of items sold at a retail outlet or at a restaurant,  
2 comprising:  
3 connecting to a short wave radio frequency zone of the retail outlet or the  
4 restaurant;  
5 displaying one or more items;  
6 selecting one or more of the items desired by one or more users; and  
7 paying for the one or more items using an interactive coupon payment method.

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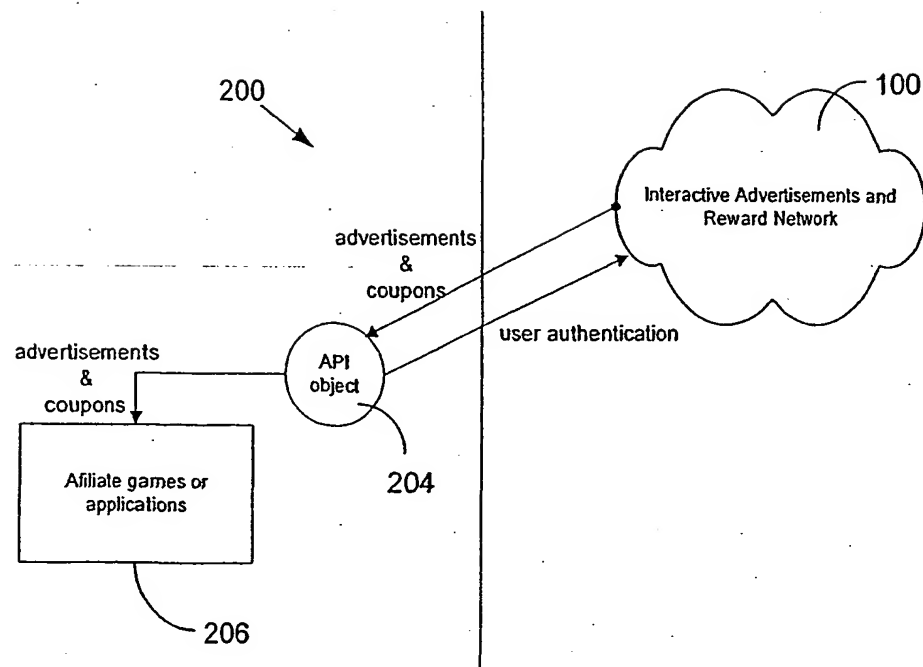


FIGURE 2



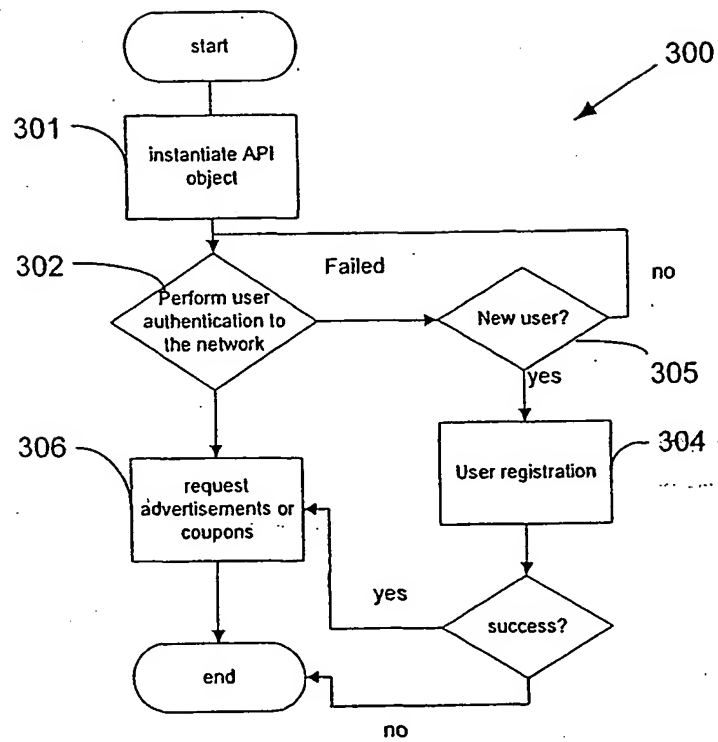


FIGURE 3

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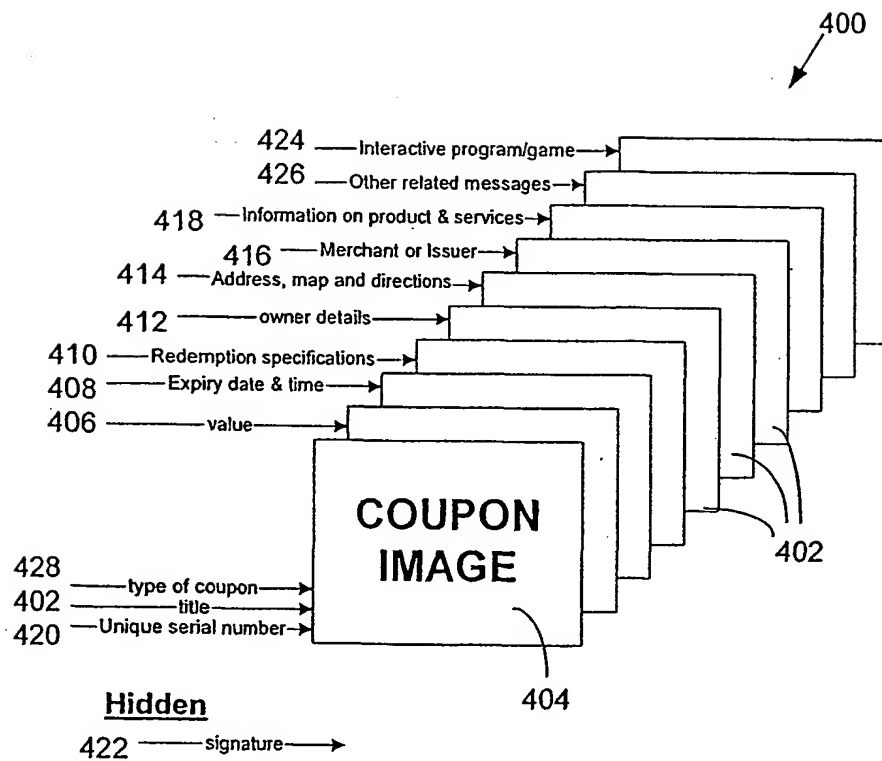


FIGURE 4

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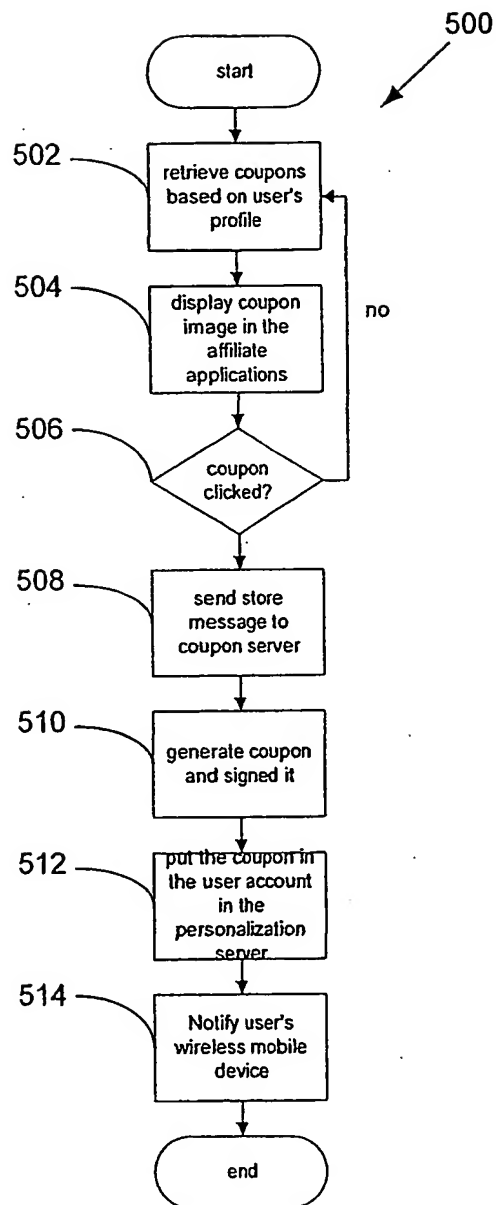
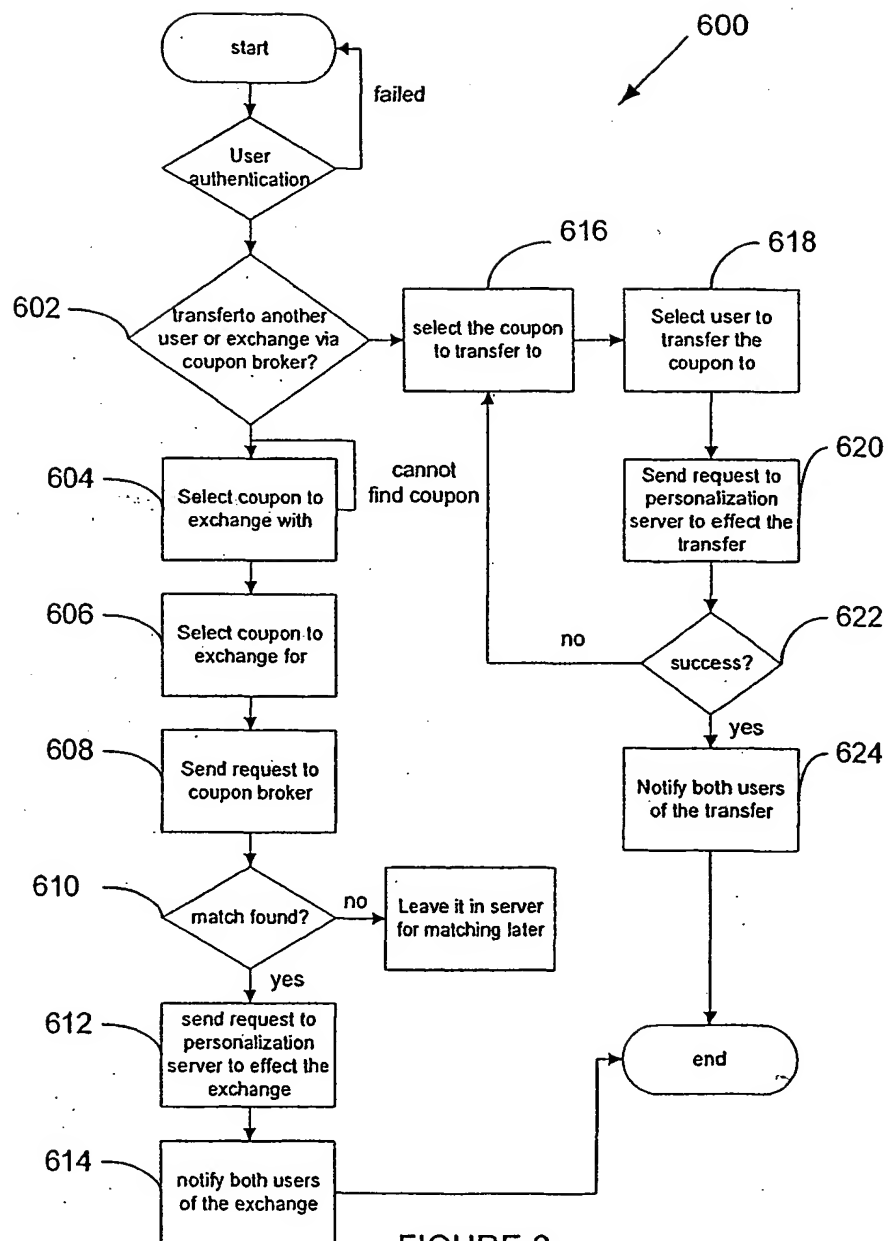


FIGURE 5



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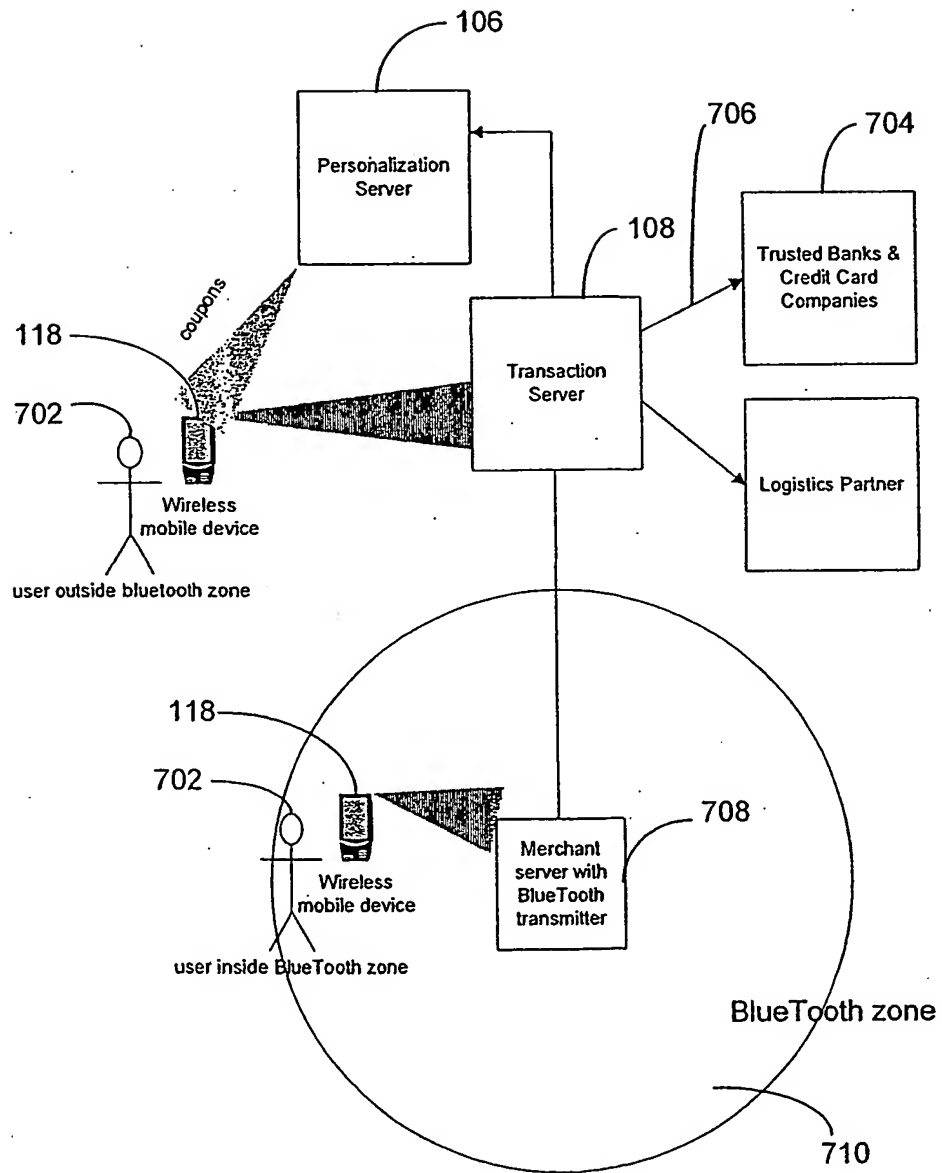


FIGURE 7

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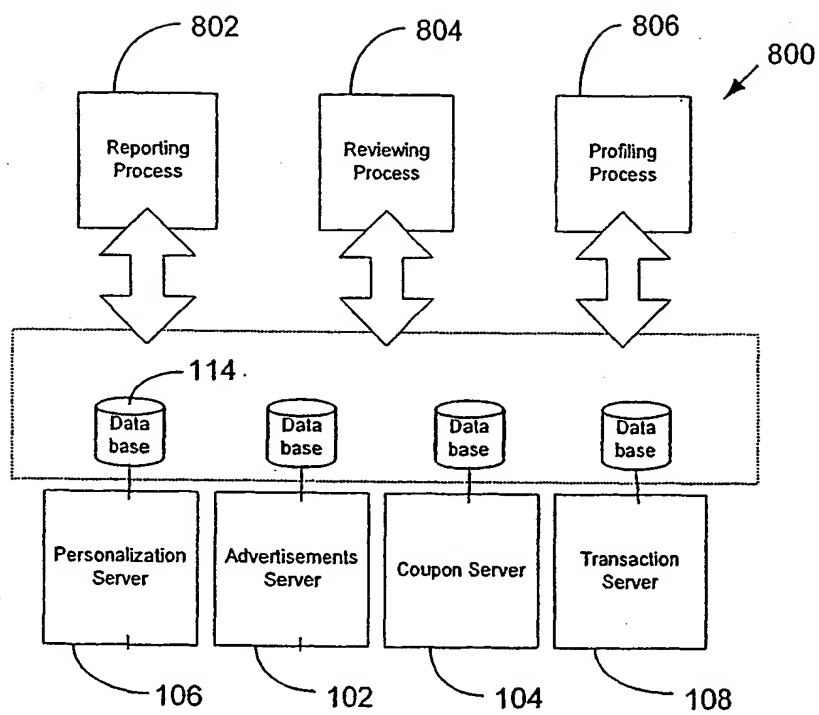


FIGURE 8

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SG01/00059

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. <sup>7</sup> : A63F 13/00												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT with keywords; USPTO; DELPHION												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
A	WO 00/39657 A2 (GREENBERG et al.) 27 December 1998 Entire Document											
A	GB 2353389 A (NCR INTERNATIONAL INC.) 21 February 2001 Entire Document											
A	EP 1077437 A2 (PHONE.COM INC.) 21 February 2001 Entire Document											
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone											
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
Date of the actual completion of the international search 23 July 2001		Date of mailing of the international search report 27 July 2001										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  CHARLES BERKO Telephone No : (02) 6283 2169										

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/SG01/00059

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00/62564 A1 (QUALCOMM INCORPORATED) 19 October 2000 Entire Document	
A	WO 00/41121 A1 (KELLER et al.) 13 July 2000 Entire document	



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/SG01/00059**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
WO	200041121	NONE	
EP	1077437	CN	1280344
GB	2353389	NONE	
WO	200039657	AU	200017955
WO	200062564	AU	200046434
END OF ANNEX			

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